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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,894	11/24/2003	Deepak M. Srinivasa	JP920020187US1	5307

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EXAMINER

LIU, LIN

ART UNIT	PAPER NUMBER
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2445

MAIL DATE	DELIVERY MODE
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11/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/720,894	Applicant(s) SRINIVASA, DEEPAK M.	
	Examiner LIN LIU	Art Unit 2445	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 15-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to communications filed on 07/29/2008.

Claims 1-10 and 15-23 are pending and have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims **1-10 and 15-23** are rejected under 35 U.S.C. 102(a) as being anticipated by **Hadad et al. (“Temporal Reasoning for a Collaborative Planning Agent in a Dynamic Environment”)**.

With respect to **claim 1**, Hadad teaches a method in a computer system for assessing the relative complexity of different options for performing a task by the computer system, the method comprising the steps of:

storing programming instructions on a storage medium of the computer system
(Hadad: pages 2-3, the Cooperative intelligent agents);

executing the instructions by the computer system, wherein the executing causes the computer system (Hadad: pages 2-3, the Cooperative intelligent agents) to implement a method comprising the steps of:

defining the task as a sequenced set data structure that specifies actions of the task, and sequence information that specifies the order in which particular actions are to be performed (Hadad: pages 9-10 & 15, noted the set of actions);

storing recipes available for performing constituent actions of the task as sequenced set data structures that specify subactions of the recipes for the constituent actions, and sequence information that specifies the order in which the subactions are to be performed (Hadad: pages 9-11, noted the recipes to perform subactions.);

determining complexity measures associated with performing the task using different combinations of recipes for constituent actions of the task, based upon complexity measures of actions specified by respective combinations of available recipes (Hadad: pages 10-11 & 16, noted the complex levels of the action); and

presenting a report of the complexity measures associated with performing the task (Hadad: page 4, paragraph 1).

With respect to **claim 2**, Hadad teaches the method as claimed in claim 1, wherein complexity measures for actions are defined in terms of the complexity measures of available recipes for performing the actions, and complexity measures for recipes are defined in terms of the complexity of the subactions of the recipe (Hadad: pages 10 & 12).

With respect to **claim 3**, Hadad teaches the method as claimed in claim 1, further comprising the steps of:

determining predetermined complexity measures for basic actions that are not specified by a recipe (Hadad: pages 3-4); and

determining specified complexity measures for contracted actions that are performed by a different agent (Hadad: pages 10-11).

With respect to **claim 4**, Hadad teaches the method as claimed in claim 1, further comprising the alternating steps of:

updating complexity measures for recipes in relation to actions whose complexity measures are determined (Hadad: fig. 6 and page 20); and

updating complexity measures for actions in relation to recipes whose complexity measures are updated (Hadad: fig. 6 and page 20).

With respect to **claim 5**, Hadad teaches the method as claimed in claim 1, wherein the complexity measures associated with a particular action performed by a particular agent is based upon the complexity measures for each of the recipes for that action (Hadad: page 10).

With respect to **claim 6**, Hadad teaches method as claimed in claim 1, wherein the sequence information that specifies the order in which particular actions are to be performed specifies, for pairs of actions, that one specified action is sequenced before another specified action (Hadad: fig. 2-3, and pages 10-11).

With respect to **claim 7**, Hadad teaches the method as claimed in claim 1, further comprising the step of defining a sequenced set data structure as $S = (A, M)$, ha which A is a multi-set element and M is a sequenced relation that specifies an ordered sequence of the elements A in the sequenced set S (Hadad: page 12).

With respect to **claim 8**, Hadad teaches the method as claimed in claim 7, further comprising the step of defining a sequencing relation for the sequenced set data

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structure S for two elements a_i and a_j of multi-set element A, such that a_i is sequenced before a_j in set A under the relation M (Hadad: page 12).

With respect to **claim 9**, Hadad teaches method as claimed in claim 1, further comprising the step of delegating the defined task to a primary agent for execution of the task by at least one of the primary agent and one or more contracting agents (Hadad: pages 3-4 & 16).

With respect to **claim 10**, Hadad teaches the method as claimed in claim 1, wherein a plurality of series of actions exist for performing the defined task, each of the series of actions having a corresponding complexity (Hadad: page 10), and the method further comprises the step of: performing the defined task by executing a selected one of the series of actions, wherein the complexity of the selected series of tasks is less than the complexities of the other series of tasks of the plurality of series of tasks (Hadad: pages 12 & 15-16).

In regard to **claims 15-23**, the limitations of these claims are substantially the same as those in claims 1-10. Therefore the same rationale for rejecting claims 1-10 is used to reject claims 15-23. By this rationale **claims 15-23** are rejected.

Response to Arguments

4. Applicant's arguments filed 07/29/2008 have been fully considered but they are not persuasive.
5. After carefully reviewing the Applicant's remarks, the following is a list of Applicant's main concerns on the previous Office Action

a. On pages 2-3 of Applicant's remark, Applicant mainly argues that Hadad fails to teach "a method for determining and reporting the complexity measures associated with performing a task by a computer system."

b. On page 3 paragraph 4 of Applicant's remark, Applicant mainly argues that "*Hadad* teaches a system that uses two different algorithms - the AI and the RT - to execute a series of recipes based upon the temporal constraint input into the system. The present invention, however, uses a single algorithm to determine complexities and then report the complexities or executes a series of actions based upon those determined complexities."

6. In response to Applicant's argument **a**, the examiner respectfully disagrees. First, the presently recited claim language does not require what type of report and how this report is to be presented to any users. It merely states "presenting a report of the complexity measures *associated* with performing the task." (emphasis added.) The examiner would like to address that presenting a report of association with complexity measures for performing a task can be done in numerous ways. Examples of such reports can be the topology tree as illustrated in fig. 2 and pseudo codes as illustrated by fig. 3 of Hadad in pages 10-11. Hadad also discloses:

"Figure 3 presents an example of a possible recipe for some complex level action α . As shown in this figure, the recipe structure consists of subactions, temporal constraints, and may also include other entities. Each subaction may be either an individual action or a multi-agent action and is associated with temporal intervals; each interval represents the time period during which the corresponding subaction is performed. The recipe includes two types of temporal constraints, *precedence* constraints and *metric* constraints. The parameters of an action may be partially specified in a recipe and in a partial plan. For the agents to have achieved a complete plan, the values of the temporal parameters of the actions that constitute their joint activity must be

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identified in such a way that all of the appropriate constraints are satisfied." (page 10, last paragraph) (emphasis added.)

The above disclosure in addition with Fig. 3 of Hadad clearly shows a way of presenting a report of a recipe for complexity measures of complex level action associated with performing a task.

Furthermore, Applicant also argues that "The algorithm in Hadad is a "temporal reasoning mechanism" which asks: "how do I get all of my recipes to complete task A within the time allotted?" The algorithm of the present invention, however, is a complexity determination algorithm which asks: "how complex are the different combinations of recipes used to complete task A?". The examiner disagrees. The examiner would like to bring Applicant's attention to page 11 second paragraph of Hadad:

"The problem with reasoning about the temporal parameters of the actions that the agent is committed to perform results from the dynamic decomposition of the actions in the SharedPlan model. When a high-level action is broken up into sequences of subactions and finally into basic actions, the time available to achieve the high-level action must also be split into intervals for each subaction. Doing this correctly would require the SharedPlan system to have a predictable mechanism of how long it takes to solve the subactions. Unfortunately, building such a predictable model is difficult because the SharedPlan model deals with agents that may only have partial knowledge on the way in which to perform an action. **That is, as a result of the dynamic nature of plans, any of the components of its plan may be incomplete and the agent does not know the duration of the complex actions before it finishes constructing its plan.** In this paper we describe the technique of temporal reasoning mechanisms which we propose to use in our system in order to build this type of predictable mechanism which may reason in a dynamic fashion." (emphasis added.)

It is clearly shown from the above disclosure of Hadad, that his algorithm also discloses determining how complex are the different components of its plan, which encompasses different combinations of recipes to complete a task.

In addition, Applicant's argument is mainly directed arguing that Hadad fails to teach "create or present a report of the complexity measures associated with performing a task". However, the examiner would like to bring Applicant's attention to the remark pages 10-12 of Applicant's remark dated 02/21/2008, wherein Applicant admits that such feature is disclosed in the BACKGROUND of the specification. As MPEP states that:

"Whether the **specification's background of the invention describes information as being known or conventional**, which may be considered as an admission of prior art, but such information is unfamiliar to examiner and cannot be found within the application file or from the examiner's search, and further details of the information would be relevant to the question of patentability." (MPEP 704.11 (b)) (emphasis added.)

It is clearly shown that such feature that Applicant argues is not the main inventive features that Applicant pursues. In fact, it is a known and conventional feature that Applicant admits in the BACKGROUND of the specification. The court rules that when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious. *Sakraida v. AG Pro, Inc.*, 425 U.S. 273 (1976).

7. In response to applicant's argument **b** that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies

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(i.e., *uses a single algorithm to determine complexities*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LIN LIU whose telephone number is (571)270-1447. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B. Burgess can be reached on (571)-272-3949. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. L./

/Patrice Winder/
Primary Examiner, Art Unit 2445

/Lin Liu/

Examiner, Art Unit 2445